

What is claimed is:

1. A thermal aircraft having an outer envelope for containing a quantity of hot air and supporting a load-carrying basket, the envelope having an aperture formed therein at or near its upper end to permit outflow of air from the interior of the envelope, a spider comprising a plurality of load tapes extending radially across said aperture, removable venting means comprising a parachute panel adapted to close said aperture under pressure of air inside the envelope, first control means operable to move the periphery of the parachute panel away from the aperture to permit controlled venting in flight, and second control means operable to draw the parachute panel radially inwardly and downwardly away from the aperture for rapid deflation of the envelope, and wherein the venting means further includes a plurality of limiting lines attached at one of their ends to the parachute panel and at their other ends to respective ones of the load tapes of the spider for limiting the downward movement of the parachute panel away from the aperture.
2. A thermal aircraft according to claim 1, wherein the limiting lines are attached at their said one ends to the parachute panel at or near its periphery.
3. A thermal aircraft according to claim 1, wherein said first control means is operable in a first mode to move the periphery of the parachute panel away from the aperture to permit controlled venting in flight, and in a second mode to extend the parachute panel laterally or radially to its maximum surface area to removably cover and seal said aperture.
4. A hot air balloon having an outer envelope for containing a quantity of hot air and supporting a load-carrying basket, the envelope having an aperture formed therein at or near its upper end to permit outflow of air from the interior of the

envelope, a spider comprising a plurality of load tapes extending radially across said aperture, removable venting means comprising a parachute panel having a diameter larger than that of the aperture, and adapted to close said aperture under pressure of air inside the envelope, first control means operable to move the periphery of the parachute panel away from the aperture to permit controlled venting in flight, and second control means operable to draw the parachute panel radially inwardly and downwardly away from the aperture for rapid deflation of the envelope, and wherein the venting means further includes a plurality of limiting lines attached at one of their ends to the parachute panel and at their other ends to respective ones of the load tapes of the spider for limiting the downward movement of the parachute panel away from the aperture.

5. A hot air balloon according to claim 4, wherein the limiting lines are attached at their said one ends to the parachute panel at or near its periphery.

6. A hot air balloon according to claim 4, wherein the lengths of said limiting lines are substantially less than the radius of the parachute panel.

7. A hot air balloon according to claim 6, wherein said limiting lines are slidably attached at their said other ends to said load tapes, ropes or cords of said spider.

8. A hot air balloon according to claim 7, wherein said limiting lines are attached at their said other ends to respective rings or pulleys encircling respective ones of said load tapes of said spider

9. A hot air balloon according to claim 4, wherein said first control means is operable in a first mode to move the periphery of the parachute panel away from the

aperture to permit controlled venting in flight, and in a second mode to extend the parachute panel laterally or radially to its maximum surface area to removably cover and seal said aperture.

10. A hot air balloon according to claim 9, wherein the lengths of said limiting lines are substantially less than the radius of the parachute panel.
11. A hot air balloon according to claim 10, wherein said limiting lines are slidably attached at their said other ends to said load tapes of said spider.
12. A hot air balloon according to claim 11, wherein said limiting lines are attached at their said other ends to respective rings or pulleys encircling respective ones of said load tapes of said spider
13. A hot air balloon according to claim 4, wherein two of said limiting lines are attached at their said one ends to the parachute panel at the same position.
14. A hot air balloon according to claim 4, wherein said limiting lines are attached at their said one ends to the parachute panel at positions spaced from the periphery of the parachute panel.
15. A hot air balloon according to claim 14, wherein two of said limiting lines are attached at their said one ends to the parachute panel at the same position.
16. Venting means for a thermal aircraft, said thermal aircraft having an outer envelope for containing a quantity of hot air and supporting a load-carrying basket, the envelope having an aperture formed therein at or near its upper end to permit outflow of air from the interior of the envelope, a spider comprising a plurality of

load tapes extending radially across said aperture, and said venting means comprising a parachute panel having a diameter larger than that of the aperture, and adapted to close said aperture under pressure of air inside the envelope, first control means operable to move the periphery of the parachute panel away from the aperture to permit controlled venting in flight, and second control means operable to draw the parachute panel radially inwardly and downwardly away from the aperture for rapid deflation of the envelope, and wherein the venting means further includes a plurality of limiting lines attached at one of their ends to the parachute panel and at their other ends to respective ones of the load tapes of the spider for limiting the downward movement of the parachute panel away from the aperture.

17. Venting means according to claim 16, wherein said first control means is operable in a first mode to move the periphery of the parachute panel away from the aperture to permit controlled venting in flight, and in a second mode to extend the parachute panel laterally or radially to its maximum surface area to removably cover and seal said aperture.

18. Venting means according to claim 16, wherein the lengths of said limiting lines are substantially less than the radius of the parachute.

19. Venting means according to claim 16, wherein said limiting lines are slidingly attached at their said other ends to said load tapes of said spider.

20. Venting means according to claim 19, wherein said limiting lines are attached at their said other ends to respective rings or pulleys encircling respective ones of said load tapes, ropes or cords of said spider

21. Venting means according to claim 16, wherein said limiting lines are attached

to said parachute panel at their said one ends at or near the periphery of the parachute panel.

22. Venting means according to claim 16, wherein two of said limiting lines are attached at their said one ends to the parachute panel at the same position.

23. Venting means according to claim 16, wherein said limiting lines are attached at their said one ends to the parachute panel at positions spaced from the periphery of the parachute panel.

24. Venting means according to claim 23, wherein two of said limiting lines are attached at their said one ends to the parachute panel at the same position.

25. A thermal aircraft, such as a hot air balloon having an outer envelope for containing a quantity of hot air and supporting a load-carrying basket, the envelope having an aperture formed therein at or near its upper end to permit outflow of air from the interior of the envelope, a spider comprising a plurality of load tapes extending radially across said aperture, removable venting means comprising a parachute panel adapted to close said aperture under pressure of air inside the envelope, first control means operable to move the periphery of the parachute panel away from the aperture to permit controlled venting in flight, and second control means operable to draw the parachute panel radially inwardly and downwardly away from the aperture for rapid deflation of the envelope, and wherein the venting means further includes limiting lines for limiting the downward movement of the parachute panel away from the aperture, the limiting lines being attached at one of their ends to respective first attachment points on the inner surface of the envelope and at their respective other ends to second attachment points at or near the edge of the parachute panel, the limiting lines extending across the aperture when the parachute panel

closes the aperture.

26. A thermal aircraft according to claim 24, wherein the first and second attachment points for each limiting line are positioned substantially diametrically opposite each other relative to the aperture.

27. A thermal aircraft according to claim 24, wherein the aperture and the parachute panel are circular, and wherein the respective first attachment points on the inner surface of the envelope are positioned at the edge of the aperture.

28. A thermal aircraft according to claim 24, wherein the aperture and the parachute panel are circular, and wherein the respective first attachment points on the inner surface of the envelope are positioned adjacent the aperture, at a distance from the centre of the aperture less than or equal to the radius of the parachute panel, in a region overlapped by the parachute panel when in its closed position.

29. A thermal aircraft according to claim 24, wherein the aperture and the parachute panel are circular, and wherein the respective first attachment points on the inner surface of the envelope are positioned at a distance from the centre of the aperture greater than the radius of the parachute panel.